

PROJECT TITLE : CIGARETTE DEVELOPMENT 2
PERIOD COVERED : APRIL 30 - MAY 21 1981
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400 COMMONWEALTH 4 (Control)

Objective

To develop a low-tar Virginia cigarette of high quality, delivering 4.0 mg tar and conforming to the Hunter list.

Description of samples and results

For the task, a blend of tobacco called COMMONWEALTH 4 Control was established and filed under No GB1040001N02. This blend will later be incorporated in a conventional filter cigarette having a format of 7.95 mm diameter, 20 mm filter plug and a total cigarette length of 84.4 mm.

The strips of tobacco, from various grades, were conditioned to 20 % moisture prior to entering the blending-box and then conveyed to the cutter which was previously adjusted to give a cut-size of ca. 0.7 mm or 36 c.i.

The blend of the whole stems, after preconditioning, passed through the flattening-rollers at a clearance of +/- 0.2 mm, then it entered the cutter at ca. 33 % moisture.

The cutter was previously adjusted to give a cut-size of ca. 0.17 mm or 149 c.i. From there, it passed into the superwetting cylinder where the moisture level of the cut-stems rose to 48 % and, at this moisture, the cut-stems were bulked for a period of 45 min. to help the surface H₂O completely penetrate the strands. After leaving the bulking-box, the cut-stems were then fed through the toasting line and upon exit they had a 19 % moisture content. The finished cut-filler, containing additional ET, showed at the final dryer exit a good 13.7 % moisture content.

In the preparation and processing of all the blend components, great attention was given to the moisture levels at the different processing steps. This was done as such a blend did not include PC/AC ingredients nor flavourants. Prior to the making of cigarette prototypes, two of the cut-filler components were separately analysed for their strand quality. The results obtained are stated below.

COMMONWEALTH 4 - CONTROL -
CUT-FILLER DEGRADATION ANALYSES
SCREEN SIZE

Tobacco origin	No 10 %	No 20 %	No 30 %	No 50 %	Fines %	Moisture %	Filling power ml/10 gr at 12 % moisture
	\bar{x}_3	\bar{x}_3	\bar{x}_3	\bar{x}_3	\bar{x}_3	\bar{x}_3	\bar{x}_{12}
F T R	48.7	39.8	9.1	2.1	0.3	13.4	36.5

CUT-ROLLED-STEMS (CRS)

F T R	31.5	60.2	5.7	2.2	0.4	13.4	43.6
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Comments

In consideration of the reduced size of the tobacco strands, in the components of the cut-filler (strips and stems), and the lack of ingredients, ie. humectants, we can say that the physical characteristics of the cut-filler and those of the cut-rolled-stems (CRS) proved to be of good quality. At this time, no results concerning the total qualities of the cigarette prototypes produced were available. A complete evaluation will be presented in the next report.

Objective

To develop a Virginia cigarette of high quality, delivering 9.0 mg tar, which conforms to the Hunter list.

Description of samples and results

For the task, a blend of tobacco called COMMONWEALTH 9 Control was established and filed under No GB1042001N02. This blend will later be incorporated in a conventional filter cigarette having the following formats :

- a) 7.95 mm diameter
25.0 mm filter-plug
84.4 mm total cigarette length
- b) 7.95 mm diameter
20.0 mm filter-plug
84.4 mm total cigarette length

Tobacco strips, of various grades, were conditioned to ca. 20 % moisture prior to entering the blending-box and then conveyed to the cutter which was previously adjusted to give a cut-size of ca. 0.7 mm or 36 c.i.

The blend of the whole stems, after preconditioning, passed through the flattening-rollers, set at a clearance of ± 0.2 mm, then it entered the cutter at ca. 33 % moisture. The cutter was previously adjusted to give a cut-size of ca. 0.17 mm or 149 c.i. From there, it passed into the super-wetting cylinder where the moisture level of the cut-stems rose up to 44 % and, at this moisture, the cut-stems were bulked for a period of 45 min. to help the surface H_2O completely penetrate the strands. After leaving the bulking-box, the cut-stems were fed through the toasting line and upon exit they had a 19 % moisture content. The finished cut-filler, at the final dryer exit, showed a low, 12 %, moisture content. It should be noted that, in the processing of the above blend, no PC/AC ingredients nor flavourants were employed.

This cut-filler, containing no EI, prior to use in the making of cigarette prototypes, was analysed for the quality of the two blend components as shown below.

COMMONWEALTH 9 - CONTROL -
CUT-FILLER DEGRADATION ANALYSES
SCREEN SIZE

Tobacco origin	No 10 %	No 20 %	No 30 %	No 50 %	Fines %	Moisture %	Filling power ml/10 gr at 12 % moisture
	\bar{x}^3	\bar{x}^3	\bar{x}^3	\bar{x}^3	\bar{x}^3	\bar{x}^3	\bar{x}^{12}
F T R	47.6	38.3	10.5	2.8	0.8	12.8	35.3

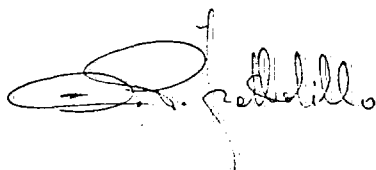
CUT-ROLLED-STEMS (CRS)

F T R	30.7	60.0	5.8	2.5	1.0	14.9	43.3
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Comments

In consideration of the reduced size of the tobacco strands, in the components of the cut-filler (strips and stems), and the lack of ingredients, ie. humectants, we can say that the physical characteristics of the cut-filler and those of the cut-rolled-stems (CRS) proved to be of good quality. Even so, we should keep in mind that 12 % moisture tobacco out-put, for such a special Virginia type of cut-filler, is far too low.

At this time, no results concerning the total qualities of the cigarette prototypes produced were available. A complete evaluation will be presented in the next report.



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